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IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads.

2. (Original) The fixation screw in accordance with claim 1 wherein said shank is of tubular structure.

3. (Original) The fixation screw in accordance with claim 2 wherein said shank is provided with apertures in a sidewall thereof.

4. (Original) The fixation screw in accordance with claim 3 wherein the shank distal end defines a plane normal to the shank central axis.

5. (Original) The fixation screw in accordance with claim 1 wherein the distal end portion is generally conically-shaped.

6. (Original) The fixation screw in accordance with claim 1 wherein the angle is about 40° - 55° .

7. (Currently Amended) A fixation screw comprising:

an elongated shank having:

a distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end, and the screw threads defining an outer periphery of said shank;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads.

8. (Original) The fixation screw in accordance with claim 7 wherein said shank is of tubular structure.

9. (Original) The fixation screw in accordance with claim 8 wherein said shank is provided with apertures in a sidewall thereof.

10. (Original) The fixation screw in accordance with claim 9 wherein the shank distal end defines a plane normal to the shank central axis.

11. (Original) The fixation screw in accordance with claim 7 wherein the distal end portion is generally conically-shaped.

12. (Original) The fixation screw in accordance with claim 7 wherein the angle is about 40°-55°.

13. (Currently Amended) A fixation screw for fastening a graft ligament in a bone tunnel, said screw comprising:

an elongated shank having:

a generally conically-shaped distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end, and the screw threads defining an outer periphery of said shank;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and

the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads, and appropriate for positioning the end surface as generally a continuation of surrounding bone surface of a body in which the graft ligament is fastened.

14. (Original) The fixation screw in accordance with claim 13 wherein the angle is about 40°-55°.

15. (Original) A graft ligament anchor assembly comprising:

a tubular body having a bore therethrough and proximal and distal ends, said tubular body being adapted for placement in a bone tunnel proximate an opening thereof in a bone surface;

said tubular body comprising a deformable wall defining at least in part a chamber for receiving a graft ligament therein; and

a fixation screw for insertion into said tubular body axially of said tubular body, for impinging upon said deformable wall so as to press said deformable wall, and hence the graft ligament received in the chamber, toward a wall of the bone tunnel, to fix the graft ligament in the bone tunnel, said screw comprising:

an elongated shank having

a distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end; and

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle and appropriate for positioning as generally a continuation of surrounding bone surface of a body in which the graft ligament is fastened.

16. (Original) The anchor assembly in accordance with claim 15 wherein said screw shank is of a tubular structure.

17. (Original) The fixation screw in accordance with claim 16 wherein said screw shank is provided with apertures in a sidewall thereof.

18. (Original) The fixation screw in accordance with claim 17 wherein the shank distal end defines a plane normal to the shank central axis.

19. (Original) The fixation screw in accordance with claim 15 wherein the distal end portion is generally conically-shaped.

20. (Original) The fixation screw in accordance with claim 15 wherein the angle is about 40°-55°.

21. (Withdrawn) A method for securing a graft ligament in a bone tunnel having an end opening in a

bone surface, a free end of the graft ligament extending out of the bone tunnel end opening, the method comprising the steps of:

providing a fixation screw for insertion into the bone tunnel adjacent the graft ligament for impinging upon the graft ligament and a wall of the bone tunnel to fix the graft ligament in the bone tunnel, the screw comprising:

an elongated shank having
a distal end portion;
a proximal end;
a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on the shank and extending from the distal end portion to the proximal end;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and appropriate for positioning as generally a continuation of surrounding portions of the bone surface;

pulling the graft ligament taut;
inserting the screw into the bone tunnel and advancing the screw therein to threadedly engage the graft ligament and a wall of the bone tunnel to fix the graft ligament in the bone tunnel; and

turning the screw until the shank proximal end surface thereof is substantially flush with the surrounding bone surface.

22. (Withdrawn) The method in accordance with claim 21 and comprising the further step of snipping off exposed portions of the graft ligament.

23. (Withdrawn) A method for securing a graft ligament in a bone tunnel having an end opening in a bone surface, a free end of the graft ligament extending out of the bone tunnel end opening, the method comprising the steps of:

providing a graft ligament anchor comprising:

a tubular body having a bore therethrough and proximal and distal ends;

said tubular body comprising a deformable wall and defining at least in part a chamber; and

a fixation screw comprising an elongated shank having a distal end portion, a proximal end, a central axis extending from the distal end portion to the proximal end, and screw threads disposed on the shank and extending from the distal end portion to the proximal end;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and appropriate for positioning as generally a continuation of surrounding portions of the bone surface;

extending the graft ligament free end through the chamber;

placing the tubular body in the end opening and in the bone tunnel;

pulling the graft ligament taut;

inserting the screw into the tubular body and advancing the screw therein to press the deformable wall, and hence the graft ligament received in the chamber, toward the wall of the bone tunnel, to fix the graft ligament in the bone tunnel; and

turning the screw until the proximal end surface thereof is substantially flush with the bone surface therearound.

24. (Withdrawn) The method in accordance with claim 23 and comprising the further step of snipping off exposed portions of the tubular body and the graft ligament.

25. (Withdrawn) A bone tunnel liner for lining the wall of a bone tunnel which is to have a graft ligament fastened therein, said bone tunnel liner comprising:

a tube having a distal end and a proximal end, and a central axis extending from said distal end to said proximal end; and

screw threads disposed on said tube and extending from said distal end to said proximal end;

wherein said proximal end defines an end plane disposed transversely to the central axis and at an angle thereto other than a normal angle.

26. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads; and

wherein said screw shank is of a tubular structure.

27. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said screw shank is of a tubular structure; and

wherein said screw shank is provided with apertures in a sidewall thereof.

28. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said screw shank is of a tubular structure;

wherein said screw shank is provided with apertures in a sidewall thereof; and

wherein the shank distal end defines a plane normal to the shank central axis.

29. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads; and

wherein said shank is of tubular structure.

30. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said shank is of tubular structure; and

wherein said shank is provided with apertures in a sidewall thereof.

31. (New) A fixation screw for fastening a graft ligament in a bone tunnel, the screw comprising:

an elongated shank having a distal end and a proximal end, and a central axis extending from the distal end to the proximal end;

screw threads disposed on said shank and extending from the distal end to the proximal end, and the screw threads defining an outer periphery of said shank;

wherein said proximal end defines a generally planar end surface disposed transversely to the central axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said shank is of tubular structure;

wherein said shank is provided with apertures in a sidewall thereof; and

wherein the shank distal end defines a plane normal to the shank central axis.

32. (New) A fixation screw comprising:

an elongated shank having:

a distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end, and the screw threads defining an outer periphery of said shank;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and the planar

end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads; and

wherein said shank is of tubular structure.

33. (New) A fixation screw comprising:

an elongated shank having:

a distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end, and the screw threads defining an outer periphery of said shank;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said shank is of tubular structure; and

wherein said shank is provided with apertures in a sidewall thereof.

34. (New) A fixation screw comprising:

an elongated shank having:

a distal end portion;

a proximal end;

a central axis extending from the distal end portion to the proximal end; and

screw threads disposed on said shank and extending from the distal end portion to the proximal end, and the screw threads defining an outer periphery of said shank;

the proximal end comprising a generally planar end surface disposed transversely to the axis and at an angle thereto other than a normal angle, and the planar end surface is formed so that said outer periphery of said shank is concentric with a maximum outer diameter of said screw threads;

wherein said shank is of tubular structure;

wherein said shank is provided with apertures in a sidewall thereof; and

wherein the shank distal end defines a plane normal to the shank central axis.
